

REMARKS

The Office Action mailed April 16, 2008, has been received and reviewed. Claims 1-3 and 12-20 are currently pending in the application. Claims 1-3 and 12-20 stand rejected. Applicant respectfully requests reconsideration of the application in view of the following remarks.

Applicant respectfully notes that the remarks herein do not constitute, nor are they intended to be, an exhaustive enumeration of the patentable distinctions between any cited references and the invention, example embodiments of which are set forth in the claims of this application. Rather, and in consideration of the fact that various factors make it impractical to enumerate all the patentable distinctions between the invention and the cited art, as well as the fact that the Applicant has broad discretion in terms of the identification and consideration of the base(s) upon which the claims distinguish over the cited references, the distinctions identified and discussed herein are presented solely by way of example. Consistent with the foregoing, the discussion herein is not intended, and should not be construed, to prejudice or foreclose contemporaneous or future consideration by the Applicant, in this case or any other, of: additional or alternative distinctions between the invention and the cited references; and/or, the merits of additional or alternative arguments.

Applicant notes as well that the remarks, or a lack of remarks, set forth herein are not intended to constitute, and should not be construed as, an acquiescence, on the part of the Applicant: as to the purported teachings or prior art status of the cited references; as to the characterization of the cited references advanced by the Examiner; or as to any other assertions, allegations or characterizations made by the Examiner at any time in this case. Applicant reserves the right to challenge the purported teachings and purported prior art status of the cited references at any appropriate time.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 5,818,698 to Corisis in view of U.S. Patent No. 5,817,535 to Akram

Claims 1, 14-15 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Corisis (U.S. Patent No. 5,818,698) in view of Akram (U.S. Patent No. 5,817,535). Applicant respectfully traverses this rejection, as hereinafter set forth.

Applicant respectfully notes at the outset that in order to establish a *prima facie* case of obviousness, it is the burden of the Examiner to clearly articulate the reason(s) why the claimed invention would have been obvious to one of ordinary skill in the art at the time the invention was made. See *MPEP* § 2141.III. As stated by the U.S. Supreme Court in *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385 (2007), “[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”

To establish a *prima facie* case of obviousness the prior art reference (or references when combined) **must teach or suggest all the claim limitations**. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974); *see also* *MPEP* § 2143.03. Additionally, the Examiner must determine whether there is “an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 127 S. Ct. at 1740-1741. Further, rejections on obviousness grounds “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id* at 1741, quoting *In re Kahn*, 441, F.3d 977, 988 (Fed. Cir. 2006). Finally, to establish a *prima facie* case of obviousness there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Furthermore, the reason that would have prompted the combination and the reasonable expectation of success must be found in the prior art, common knowledge, or the nature of the problem itself, and not based on the Applicant’s disclosure. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006); *MPEP* § 2144. Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742; *DyStar*, 464 F.3d at 1367.

The 35 U.S.C. § 103(a) obviousness rejections of claims 1, 14-15 and 20 are improper because the cited references fail to teach each and every element of the claims to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed inventions.

Regarding independent claim 1, Corises and Akram, alone or in combination, do not teach or suggest “sizing, configuring and positioning a **first segment** of the elongated multisegmented interconnect slot **and at least a second segment** of the elongated multisegmented interconnect slot for respective alignment with a first plurality of bond pads and at least a second plurality of bond pads **on a *single semiconductor die*** ...” (emphasis added), as recited in independent claim 1.

Corises teaches, with reference to FIG. 3, a plurality of semiconductor dice 18 attached to a printed circuit board (PCB) 10. The PCB 10 comprises a hole 16 for each end of each semiconductor die 18 to provide access to the bond pads 20 on the semiconductor die 18.

Akram teaches a leads-over-chip single-in-line memory module having a plurality of slots formed in a substrate and a plurality of semiconductor dice attached by their active surfaces to the bottom surface thereof to allow passage of wire bonds from bond pads on the active surface of the semiconductor dice to traces on the upper surface of the substrate that extend over the active surface of each die.

However, neither Corises nor Akram teaches or suggests “sizing, configuring and positioning a **first segment** of the elongated multisegmented interconnect slot **and at least a second segment** of the elongated multisegmented interconnect slot for respective alignment with a first plurality of bond pads and at least a second plurality of bond pads **on a *single semiconductor die*** ...”

As Corises and Akram, when combined, do not teach or suggest “sizing, configuring and positioning a **first segment** of the elongated multisegmented interconnect slot **and at least a second segment** of the elongated multisegmented interconnect slot for respective alignment with a first plurality of bond pads and at least a second plurality of bond pads **on a *single semiconductor die*** ...,” as recited in independent claim 1, Applicant respectfully asserts that independent claim 1 could not have been obvious to a person of ordinary skill in the art at the time the invention was made considering Corises in view of Akram, and requests that the

Examiner withdraw the rejection of independent claim 1 under 35 U.S.C. § 103(a).

Furthermore, the nonobviousness of independent claim 1 precludes a rejection of claim 14, which depends therefrom, because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, Applicant requests that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to claim 14, in addition to the rejection to independent claim 1.

Regarding independent claim 15, Corises and Akram, alone or in combination, do not teach or suggest “sizing, configuring and positioning **each of a plurality of segments** of the elongated multisegmented slot for respective alignment with a plurality of bond pads **on a single semiconductor die ...**” (emphasis added), as recited in independent claim 15. As such, Applicant respectfully asserts that independent claim 15 could not have been obvious to a person of ordinary skill in the art at the time the invention was made considering Corises in view of Akram, and requests that the Examiner withdraw the rejection of independent claim 15 under 35 U.S.C. § 103(a).

Furthermore, the nonobviousness of independent claim 15 precludes a rejection of claim 20, which depends therefrom, because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, Applicant requests that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to claim 20, in addition to the rejection to independent claim 15.

Obviousness Rejection Based on U.S. Patent No. 5,818,698 to Corisis in view of U.S. Patent No. 5,817,535 to Akram and further in view of U.S. Patent No. 5,597,643 to Weber

Claims 2 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Corisis (U.S. Patent No. 5,818,698) in view of Akram (U.S. Patent No. 5,817,535), as applied to claims 1 and 15 above, and further in view of Weber (U.S. Patent No. 5,597,643). Applicant respectfully traverses this rejection, as hereinafter set forth.

The 35 U.S.C. § 103(a) obviousness rejections of claims 2 and 16 are improper because the cited references fail to teach each and every element of the claims to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed inventions.

Weber teaches a multi-tier laminate substrate with an internal heat spreader for electronic device packaging wherein a spacing mechanism is used to protect the bond fingers of a trace on a lower tier of the laminated substrate when a milling bit is used to cut an opening above a die cavity in the multi-tier substrate.

As previously discussed herein, Corisis and Akram fail to teach or suggest each and every element of either independent claims 1 or 15, from which claims 2 and 16 depend. Weber fails to cure the deficiencies of Corisis and Akram, as Weber does not teach or suggest either “sizing, configuring and positioning a **first segment** of the elongated multisegmented interconnect slot **and at least a second segment** of the elongated multisegmented interconnect slot for respective alignment with a first plurality of bond pads and at least a second plurality of bond pads **on a single semiconductor die ...**” (emphasis added), as recited in independent claim 1, or “sizing, configuring and positioning **each of a plurality of segments** of the elongated multisegmented slot for respective alignment with a plurality of bond pads **on a single semiconductor die ...**” (emphasis added), as recited in independent claim 15. As such, Applicant respectfully asserts that independent claims 1 and 15 could not have been obvious to a person of ordinary skill in the art at the time the invention was made considering Corises in view of Akram and further in view of Weber. Furthermore, the nonobviousness of independent claims 1 and 15 precludes a rejection of claims 2 and 16, which depend therefrom, because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, Applicant requests that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to claims 2 and 16.

Obviousness Rejection Based on U.S. Patent No. 5,818,698 to Corisis in view of U.S. Patent No. 5,817,535 to Akram in view of U.S. Patent No. 5,597,643 to Weber and further in view of U.S. Patent No. 3,635,124 to Parsons

Claims 3 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Corisis (U.S. Patent No. 5,818,698) in view of Akram (U.S. Patent No. 5,817,535) and in further view of Weber (U.S. Patent No. 5,597,643), as applied to claims 1-2 and 15-16 above, and further in view of Parsons (U.S. Patent No. 3,635,124). Applicant respectfully traverses this rejection, as hereinafter set forth.

The 35 U.S.C. § 103(a) obviousness rejections of claims 3 and 17 are improper because the cited references fail to teach each and every element of the claims to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed inventions.

Parsons teaches a tape-controlled milling machine to carve combustible casting patterns.

As previously discussed herein, Corisis, Akram, and Weber fail to teach or suggest each and every element of either independent claims 1 or 15, from which claims 3 and 17 depend. Parsons fails to cure the deficiencies of Corisis, Akram, and Weber, as Parsons does not teach or suggest either “sizing, configuring and positioning a **first segment** of the elongated multisegmented interconnect slot **and at least a second segment** of the elongated multisegmented interconnect slot for respective alignment with a first plurality of bond pads and at least a second plurality of bond pads **on a single semiconductor die ...**” (emphasis added), as recited in independent claim 1, or “sizing, configuring and positioning **each of a plurality of segments** of the elongated multisegmented slot for respective alignment with a plurality of bond pads **on a single semiconductor die ...**” (emphasis added), as recited in independent claim 15. As such, Applicant respectfully asserts that independent claims 1 and 15 could not have been obvious to a person of ordinary skill in the art at the time the invention was made considering Corises in view of Akram and further in view of Weber. Furthermore, the nonobviousness of independent claims 1 and 15 precludes a rejection of claims 3 and 17, which depend therefrom, because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03.

Therefore, Applicant requests that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to claims 3 and 17.

Obviousness Rejection Based on U.S. Patent No. 5,818,698 to Corisis in view of U.S. Patent No. 5,817,535 to Akram

Claims 12-13 and 18-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Corisis (U.S. Patent No. 5,818,698) in view of Akram (U.S. Patent No. 5,817,535), applied to claims 1 and 15 above. Applicant respectfully traverses this rejection, as hereinafter set forth.

The 35 U.S.C. § 103(a) obviousness rejections of claims 12-13 and 18-19 are improper because the cited references fail to teach each and every element of the claims to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed inventions.

As previously discussed herein, Corisis and Akram fail to teach or suggest each and every element of either independent claims 1 or 15, from which claims 12-13 and 18-19 depend. As such, Applicant respectfully asserts that independent claims 1 and 15 could not have been obvious to a person of ordinary skill in the art at the time the invention was made considering Corisis in view of Akram. Furthermore, the nonobviousness of independent claims 1 and 15 precludes a rejection of claims 12-13 and 18-19, which depend therefrom, because a dependent claim is obvious only if the independent claim from which it depends is obvious. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* MPEP § 2143.03. Therefore, Applicant requests that the Examiner withdraw the 35 U.S.C. § 103(a) obviousness rejection to claims 2 and 16.

Regarding dependent claim 12, Applicant additionally asserts that the cited prior art references, when combined, do not teach or suggest “forming the elongated multisegmented interconnect slot to a total length of about 67% or more of a length of the substrate,” as recited in dependent claim 12. Therefore, Applicant respectfully asserts that dependent claim 12 could not have been obvious to a person of ordinary skill in the art at the time the invention was made considering Corisis in view of Akram, and requests that the Examiner withdraw the rejection of dependent claim 12 under 35 U.S.C. § 103(a) for this additional reason.

Regarding dependent claim 13, Applicant additionally asserts that the cited prior art references, when combined, do not teach or suggest “forming the elongated multisegmented

interconnect slot to a total length of about 70 to 80% of a length of the substrate,” as recited in dependent claim 13. Therefore, Applicant respectfully asserts that dependent claim 13 could not have been obvious to a person of ordinary skill in the art at the time the invention was made considering Corisis in view of Akram, and requests that the Examiner withdraw the rejection of dependent claim 13 under 35 U.S.C. § 103(a) for this additional reason.

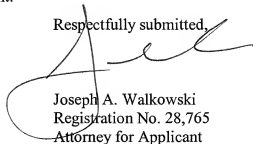
Regarding dependent claim 18, Applicant additionally asserts that the cited prior art references, when combined, do not teach or suggest “forming the plurality of segments of the elongated multisegmented interconnect slot to a combined length of about 67% or more of a length of the substrate,” as recited in dependent claim 18. Therefore, Applicant respectfully asserts that dependent claim 18 could not have been obvious to a person of ordinary skill in the art at the time the invention was made considering Corisis in view of Akram, and requests that the Examiner withdraw the rejection of dependent claim 18 under 35 U.S.C. § 103(a) for this additional reason.

Regarding dependent claim 19, Applicant additionally asserts that the cited prior art references, when combined, do not teach or suggest “forming the plurality of segments of the elongated multisegmented interconnect slot to a combined length of about 70 to 80% of a length of the substrate,” as recited in dependent claim 19. Therefore, Applicant respectfully asserts that dependent claim 19 could not have been obvious to a person of ordinary skill in the art at the time the invention was made considering Corisis in view of Akram, and requests that the Examiner withdraw the rejection of dependent claim 19 under 35 U.S.C. § 103(a) for this additional reason.

CONCLUSION

Claims 1-3 and 12-20 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, the Examiner is respectfully invited to contact Applicant's undersigned agent.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. Walkowski', is written over the typed name and address.

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